

LOADSTAR LETTER

Number 30 ○ January 1996 ○ "Special Commodore Hacking Issue"

LOADSTAR's 1996 T-shirts Are Here!

This year's black t-shirt comes in small, medium, large, X-large and XX-large. The design depicts Captain Knees Calhoun, sketched by Walt Harned. See our ad on page 6. You've got to get one of these shirts!

Casio Digital Camera Worth the Buck\$?

For those interested, the image to the right was taken with a *Casio QV-10 LCD Digital still camera* at the last minute. The Casio is one of those new point and shoot multi-megabyte computers. The ad on page 6 was taken with an old fashioned Minolta Maxxum/printed at a lab, then scanned. The actual image used in the official ad was reduced quite a bit because the machine that I produce this newsletter on is limited in hard drive space, and in internal memory. So the pic on page 6 *could* have been a lot richer and sharper!

The camera costs over \$500, and has memory for about 19 320x200 24-bit (16 million color) photos). It has a built-in menu-driven cropping/editing system and connects to a PC/TV if you want to dump your images. When the Softdisk art department purchased one, a number of people were disappointed at the less than sharp images. The image above may look sharper than it is because it's less than 2 inches wide. It really *isn't* that sharp. I was very disappointed when I first viewed the gif. Being a photographer, I would have been more impressed if the camera came with a serious lens, or even if it came with *no* lens, but allowed you to use lenses from your video and/or 35mm camera. For you PC-using LOADSTARites, I say wait a few years until this technology matures. □



More On The Wave

Posted on comp.sys.cbm on the Internet by Donovan Dyer, novan@delphi.com. Hi, folks. "WAVE" is here :-). I'm using it as I speak. It's on Delphi in DEMO mode. As you can see, it works good enough to use as a simple term. So far so good. That mess you just saw, or maybe not, was caused by trying to use word wrap. I haven't read the docs yet. Couldn't wait to run it :-). If you don't have access to Delphi (shame, shame) you will be able to get it soon from Maurice's BBS, *Speed Zone* at 1-517- 322-2386. The .sfx file is about 129 blocks. □

Gangster/Time Traveller Update

The Gangster/Time Traveller package mentioned last month will have a different form when it starts selling.

According to a new release from Threshold Productions, all copies will be shipped with two other games of similar game play. The two new games are Ghost Town and Army Days. Both were made by the same team of guys - both involve the same type of game play. The product is now called "Shoot Em Up Pack". The price will remain the same at US\$14.95. Threshold Productions, 17730 15th NE Suite #229 / Seattle, WA 98155. tpinfo@eskimo.com 1-206-361-1332 □

Hard Drive Prices Plummet

Taken from CMD's home page on the World-Wide Web. With the demand for higher capacity hard drive mechanisms created by resource-hungry applications and operating systems, prices on hard drives continue to drop. This situation has allowed CMD to once again pass substantial savings on to customers on most CMD HD models. In addition, inventories of some smaller drives are now so difficult for distributors to sell that CMD has been able to make a very good special purchase on a quantity of 40 MB mechanisms. Due to this purchase, CMD will be offering a limited-time special on HD-40s at a price lower than they've ever been able to offer on any HD model. Until further notice, the following prices will be in effect on CMD hard drives purchases:

Model	Capacity	Old Price	New Price
HD-40	40 MB	\$329.00	\$249.00
HD-340	340 MB	\$429.00	\$349.00
HD-500	500 MB	\$499.00	\$499.00
HD-1000	1 GB	\$779.00	\$599.00
HD-2000	2 GB	N/A	\$999.00

New TPUG Address

by RADAR @ ELY on CommNet. Commodore guru Jim Butterfield recently posted the following information in the CompuServe CBM forums. The new address of Toronto Pet Users Group has been changed to: *TPUG, 3605 Lakeshore Blvd. West, Box 48565, Etobicoke, Ontario, Canada, M5W 4Y6, 416-253-9637* (an answering machine to leave messages). 902-273-6300 (TPUG BBS)

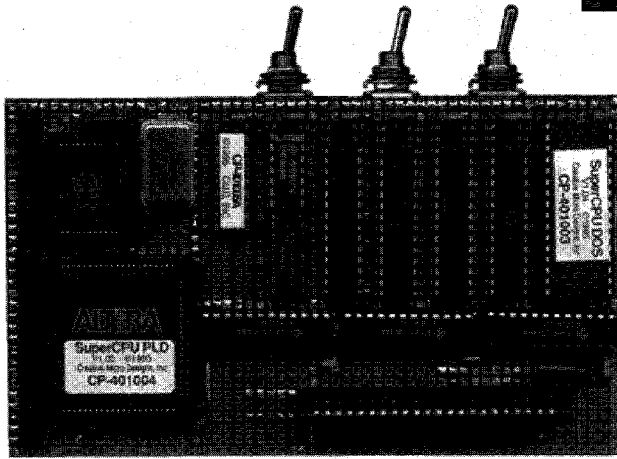
Membership is \$25 U.S. Just as a note of interest, TPUG was at one time the largest microcomputer user group in the world with a membership of more than 16,000 with a full time paid staff. The membership is now significantly less with a volunteer staff. They still support all of the Commodore 8 bit computers with their huge program.

Super64/20 Prototype

Creative Micro Designs, east coast Commodore giant, is turning into hack central. There have been other accelerators in the past, each providing the promised speedup (except for the vaporware *C-128 Zip Board*, mired in advance order controversy), but faltering when it came to compatibility and clean operation. When it comes to CMD, there's confidence that the accelerator boards will work flawlessly. This is because of CMD's crowning achievement, *RAMLink*, which was heralded by words such as "impossible" and "impractical" by the hardware soothsayers. *RAMLink* was mired in controversy because its first production run was months behind schedule, giving rise to cynics.

Now *RAMLink* is here, and has worked flawlessly for LOADSTAR for several years. With *RAMLink* came hard drives and *RAMDrives* and *SwiftLinks*, which brought C-64/128s up way past the previously unreachable 9600baud mark. Because of these past accomplishments, most people expect the new CMD accelerator boards to work as advertised with minimal software/hardware conflicts. It seems as if CMD might be short for "Can Make Devices" rather than "Creative Micro Designs."

The *Super64 CPU* is slated for release in the first quarter of 1996. Estimated retail prices of \$149 (for the 10 MHz version) and \$199 (for the 20 MHz version) have been announced. These prices are, however, subject to change prior to release. Advanced orders with a \$50 deposit are being accepted now, and will guarantee delivery from the first



From CMD's Web page

production run at a price no higher than the announced estimated prices. Contact CMD Sales at 1-800-638-3263 to place your order.

The *Super64CPU* series design is based on the *Western Design Center W65C816S* microprocessor which was used in the *Apple IIGS* and is currently employed in the *SNES (Super Nintendo Entertainment System)*. The new series is scheduled to debut in February 1996 with two models: the *Super64/10* (10 MHz) and *Super64/20* (20 MHz). Both accelerators will operate on Commodore 64 and 64c computers, as well as in 64 mode on Commodore 128 and 128D models. Acceleration will be switch-selectable as well as software-selectable. An additional switch will allow you to completely disable the accelerator or select between Standard and *JiffyDOS* operating modes. Other announced features include 128K of fast static RAM, 64K ROM, and a built-in pass-through port for connecting compatible cartridges and RAM devices.

Devices that will be compatible include:
Commodore 17xx series REUs
CMD RAMLink
Berkeley Softworks' GEORAM
Commodore 15xx series drives
CMD HD & FD series drives
CMD SwiftLink

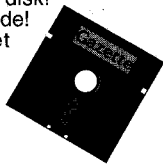
Super64CPU accelerators will provide high-speed with many software applications including GEMS, telecommunications & BBS programs, productivity and utility software, as well as most BASIC programs.

Processor: Webster Design Center 20 MHz W65C816S

All New Disk Magazine!



Monthly on one single-sided floppy disk!
 For The C-64, 64c and 128 in 64 Mode!
 Send questions, comments & get published! Submit a program and get a free issue added onto the end of your subscription.



Commodore Gazette
 c/o Christopher Ryan
 5296 Devonshire Road
 Detroit, MI 48224-3233

(313) 885-5311 M-F 11am-2pm S/S 10am-2pm

Refurbished Units & Repair Service!

C-64 Refurb. with P/S (No Books)	\$54.95
C-64 Refurb. without P/S (No books)	46.95
1541 Refurb. with cord, serial cable (No books/disks)	64.95
Monitor Cable, 5-pin DIN to RCA jacks	4.95
Serial Cable, 6-pin DIN, 6'	8.95
Commodore Power Supply for C-64 (used, tested)	7.95
Power Cord for 1541	3.95
Power Supply for 1541-II	19.95
MPS-801 Ribbon (black)	4.95
MPS-802/1526 Ribbon (black)	6.95
MPS-803 Ribbon (black)	6.95
MPS-1000 Ribbon (black)	6.95
MPS-1200 Ribbon (black)	6.95
Star Micronics SG10C Ribbon (black)	3.95
Star Micronics NX-10C Ribbon (black)	6.95
Star Micronics NX-1000C Ribbon (black)	6.95

Printers/Monitors: We have a limited supply of C-64 compatible printers & monitors. Write for current price list.

Service: We will repair or replace:
C-64 (not including P/S) \$35.00
1541 \$45.00

Price includes parts and labor. Send computer or disk drives with name, address, phone number, and describe the problem. Please remove any non-Commodore upgrades. Repair or refurbished replacement will be shipped UPS.

TO ORDER: send check or money order for the total of your order plus \$6.00 shipping* (Personal checks take 2 weeks to clear). COD orders, add \$5.00. We currently do not accept credit cards.

Commodore Repairs
 Since 1979

○○○○○

90 Day Warranty on all repairs and refurbished items.

○○○○○

Write for unadvertised specials!

Unique Services (413) 496-9275
 68 Velma Avenue, Pittsfield MA 01201

All items subject to availability. Prices subject to change.
 MA residents add 5% sales tax (except service)
 *Continental US

(located near the upper left corner). An optional 10 MHz version of this chip will also be available for a reduced price.

Altera Complex Programmable Logic Device (located near the lower left corner), which controls the various signals that Interface the new processor to your computer.

128K of Fast Static RAM (the four long chips located at top right/center). The three chips to the left of the RAM are used to control special memory mapping functions.

64K (located in upper right corner). This contains the operating system, which is downloaded into part of the RAM. Running the OS from RAM provides faster operation for system calls.

Pass-Through Port: Standard 44-pin Commodore Expansion/Cartridge Port (located bottom right/center). This lets you plug in and use many of the cartridges and I/O devices available for Commodore computers.

Rocket Socket: Not actually a socket, but a header (located along the left side). This connector provides high-speed expandability for future options.

Switches: The three switches (located along the top edge) provide a master Enable/Disable, *JiffyDOS* Enable/Disable, and Speed Select (1MHz/Full Speed/Program Controlled).

Miscellaneous: To the right of the processor is the clock oscillator, and just above the Pass-Through Port you'll see some additional glue-logic. □

Some actual quips from The LOADSTAR BBS' "saying generator. Type SY for a saying: "You can be sincere and still be stupid." ○ "Doctors have very few enemies in this life -- but plenty in the next!" ○ "The wages of sin still go largely unreported to the I.R.S." ○ "Example of inflation: What once cost \$10 to buy now costs \$30 to fix" ○ "The world is filled with willing people. Some willing to work the others willing to let them." ○ "No one is a complete failure. You can always be used as a bad example!" ○ "I'm not as thick as you stoned I am!"

LOADSTAR SOFTWARE VALUES!

The Compleat* Series

The Compleat PRINT SHOP I: (The Print Shop by Broderbund or Printmaster required). Over 1300 artistic and never before published PRINT SHOP images. The smart, fast software package included allows you to quickly scan through the many PRINT SHOP images sequentially, by name, or by group number. Press a key and save the graphic you want in 2-block, 3-block and even PRINTMASTER graphic files! All that plus a printed guide to your new sea of graphic files. And if you like the first volume, you'll probably want to get your hands on **The Compleat PRINT SHOP II**, which also contains over 1300 PRINT SHOP images, previously published on LOADSTAR issues over the past ten years. Included is the same smart, fast software package included in The Compleat PRINT SHOP I. Each volume is \$20.00.



The Compleat Programmer: Become the Commodore programmer you've always wanted to be! Megabytes of knowledge crammed and stuffed onto eight 5.25-inch disks or two 1581 disks! Plus we include all the tools, extensions, languages, assemblers, tutorials and utilities you'll need to create the same type of software you see on LOADSTAR! This massive collection is way over two megabytes of instructional text and valuable tools. \$20.00. For \$5 more, get C= Hacking MAG, not available separately, to complete your programming set.

The Compleat Maurice: A compilation of 26 solitaire card games written by Maurice Jones, the acknowledged master of card game simulations for the C-64/128. There's even a brand new, never before published game called Boomerang. Two 5.25 inch disks or one 3.5 inch disk. \$20.00 postage paid!

The Compleat Dave: Two 1581 disks or three 1541 disks crammed with SID music. Over 250 classic melodies from yesteryear, arranged and transcribed by the Master of Music, Dave Marquis, and now they're available in one gigantic 6-hour collection. If you enjoy SID music, you owe it to yourself to get THE COMPLEAT DAVE. Two 1581 disks or three 1541 disks \$20.00 postage paid!

The Compleat Walt: Ten years of Walt Harned's slideshows and multimedia events gathered into one huge collection: Seven 5.25-inch disks or three 3.5 inch disks! Over 250 pictures, including some that have never been published. The greatest one-man collection of art on any computer platform! \$20.00 postage paid!



The Compleat Roger: 25 educational quiz programs, each carefully crafted by Roger Norton, an educator who uses C-64s. These programs come crammed on two 5.25-inch 1541 disks or one 1581 disk. \$20.00 postage paid!

* No, we didn't misspell "complete." Compleat is the ten dollar spelling of complete.

Other Products

Geopower Tools - 19 Geos utilities: Calendar Printer, Fast Format, Geo Fetch (grab any portion of a screen as a Photo Scrap), Phoenix (resurrect a trashed file), Programmer's Calculator are just a few of the handy tools. Side Two is filled with Clip Art (in Photo Album format) and fonts. \$9.95 (C-64/128) Item #080525

Songsmith - LOADSTAR's own music-making program. With this deluxe music editor/player you can easily transcribe music from sheet music or make up your own tunes. Songsmith comes with a slick 30-page manual and a jukebox player with eight tunes. \$9.95

Game Star #1 Eight games from LOADSTAR #70-#100. The Tenement, Stack 'Em, The Sherwood Open, Gems, Stealth Bomber, Eagle Eyes, Moonraker & Circuitry. \$9.95

Just For Fun - Eight original games. There are arcade games, educational games, puzzle games and just games that are just plain fun on this disk. \$9.95

Fun Four - Four original games. A huge maze game, trivia game, solitaire and a space shoot 'em up -- all runnable from a menu. \$9.95

Sport - In the early days of science, "sport" meant "mutant." This is a full novel on C-64 disk by author, Jeff Jones, about a murderous neo-human. Over 500 terrifying pages. Automatic presentation software included. Printing capability. Bookmarks. Warning! This is a real novel with strong content, frank language, violence and adult situations. If the hard-hitting action of real sci-fi/horror novels turns your stomach, please don't buy this book. Must be 18. 1 CMD HD disk, 2 3.5-inch disks or 3 5.25-inch disks. \$5.95 \$1.00 Shipping.

Best Of Loadstar Compilations: LOADSTAR is over 11 years young! We have 5 anthology disks that take you through the evolution of LOADSTAR, from humble beginnings to the well-oiled machine we've become. If you want to hop on a time machine and go back, start with **The Best Of LOADSTAR #5** and move your way back to **The Best Of LOADSTAR #1**. Each of the 136 back issues are available for purchase with discounts on large orders for you collectors out there. Best Of LOADSTAR disks are available on 5.25-inch disks only. C-64 disk. \$9.95.

Master Base - Database of users' groups for the 80-column C-128. This is a fast, powerful database program for handling addresses and mailing labels (includes barcode printing).

LOADSTAR is a monthly "magazine on disk" for the Commodore 64/128. Subscribers receive two 1541 disks (or one 1581 disk) in their mailbox every month filled with news, articles and programs. These non-PD, high-quality programs are written by the best home-based programmers in the field and edited by the crack LOADSTAR team of Fender Tucker and Jeff Jones. Subscription prices are at an all-time low of \$69.95 for a 12-month subscription, or \$19.95 for a three-month subscription. You may also elect to subscribe "by the month," where we charge your credit card \$7.95 for each issue after it's shipped.

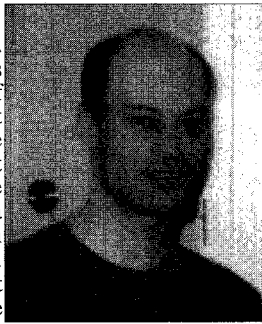
Loadstar Products Order form 1-800-594-3370

Quantity	Description	Price	Item#	Total	Qty	Description	Price	Item#	Total
3-month LOADSTAR subscription		\$19.95	na		TOTAL FROM LEFT COLUMN				
1-year subscription to LOADSTAR		\$69.95	na		Songsmith	\$9.95	069525		
Month to month @\$7.95		\$7.95/mo	na		Best Of LOADSTAR #5	\$9.95	049525		
Compleat Print Shop I on 5.25-inch		\$20.00	0009D5		Best Of LOADSTAR #4	\$9.95	049425		
Compleat Print Shop I on 3.5-inch		\$20.00	0001D3		Best Of LOADSTAR #3	\$9.95	049325		
Compleat Print Shop II on 5.25-inch		\$20.00	0010D5		Best Of LOADSTAR #2	\$9.95	049225		
Compleat Print Shop II on 3.5-inch		\$20.00	0002D3		Best Of LOADSTAR #1	\$9.95	049125		
Compleat Programmer on 5.25-inch		\$20.00	0005D5		Masterbase	\$4.95	081025		
Compleat Programmer on 3.5-inch		\$20.00	0005D3		SUBTOTAL				
Hacking mag 3.5-inch only		\$5.00	0006D3		Louisiana Residents add 4% sales tax				
Compleat Maurice 5.25-inch		\$20.00	0007D5		Shipping \$5.50 UPS Second day air. Pay no shipping if LOADSTAR				
Compleat Maurice 3.5-inch		\$20.00	0007D3		subscription or any product from the Compleat series is ordered.				
Compleat Dave 5.25-inch		\$20.00	070525		Total Enclosed:				
Compleat Dave 3.5-inch		\$20.00	070523		Payment method:				
Compleat Walt 5.25-inch		\$20.00	070425		<input type="checkbox"/> Check/money order made payable to "Loadstar" in US Funds				
Compleat Walt 3.5-inch		\$20.00	070423		<input type="checkbox"/> MasterCard <input type="checkbox"/> Visa <input type="checkbox"/> American Express <input type="checkbox"/> Discover				
Compleat Roger 5.25-inch		\$20.00	0004D5		Card # _____				
Compleat Roger 3.5-inch		\$20.00	0004D3		Expiration Date ____/____/____				
Geopower Tools		\$9.95	080525		Authorized signature: _____				
Game Star #1		\$9.95	080825		Subscribers: I prefer: <input type="checkbox"/> 5.25-inch diskettes <input type="checkbox"/> 3.5-inch diskettes				
Just For Fun		\$9.95	073525		LOADSTAR				
Fun Four		\$9.95	073525		MONTHLY				
Sport 5.25-inch		\$5.95	070325		P.O. Box 30008, Shreveport, LA 71130-0008				
Sport 3.5-inch		\$5.95	070323		Questions: ☎ 1-318-221-8718 ☎ Orders 1-800-594-3370				
Sport CMD High Density		\$5.95	070327						

TOTAL FROM THIS COLUMN

Focus on Craig Bruce

Craig Bruce is currently a Ph.D. student in the Shoshin Distributed Systems Research Group at the University of Waterloo in Canada. He is a diehard 8-bit Commodore Computer hacker, perhaps (he claims) the most advanced active 8-bit Commodore software developer in the world. Some people on our BBS call him a genius. The photo on the right was taken from Craig's "Home Sweet Hell" web page. A more tongue in cheek web page does not exist. I don't have its address in front of me now, but it's easy enough to search with Webcrawler or Yahoo and get there. Just search for "Craig Bruce". I have to confess that I usually search with Webcrawler to get everywhere because I'm such a neophyte on the web. Here's a small list of Craig's Commodore accomplishments from the horse's mouth:



ACE-128/64 Release #15

ACE is an alternative uni-tasking operating system for the C-128 and C-64 that provides a Unix-like command shell. It is still in the development stage, but enough of it is complete to be useful. "ACE" means "Advanced Computing Environment" (well, advanced for the 128/64). ACE will make use of a number of hardware extensions, including REUs up to 16 Megs, RAMLinks up to 16 Megs, and CMD disk drives. Plus, ACE provides custom device drivers for the screen and keyboard and a high-speed ramdisk.

ACE also includes a number of application/utility programs, including the following: a minimal ZED text editor, VT-100 terminal emulator for the SwiftLink-232 cartridge, a custom file upload/download protocol, sophisticated one-pass assembler, uuencode/uudecode, bcode/unbcode (better-than ucode), VBM bitmap viewer, file copier, crc32 error checkers, grep, tr, word count, sort, line wrapper, "more" program, and a few other file utilities.

ZED-128 version 0.77

ZED is a text editor that can edit very large files on the C128. ZED means "Zen Editor". (Though, unfortunately, I don't really know what THAT means). It's also a letter of the alphabet (in this country, anyway). Browse the documentation for more information about the program. This program is a must-have for all C-128 owners! The source code isn't given here... 'cause there ain't none.

Little Red Reader-128 version 2.00

Little Red Reader (LRR) is a program for the C-128 that will read and write files to and from MS-DOS floppy disks using a 1571, 1581, CMD FD-2000, or CMD FD-4000 disk drive. With the FD drives, you can use High Density (HD) MS-DOS disks. The program copies files from drive to drive (no internal buffering), so you need a second disk drive (either real or virtual) to copy files to. The menu-driven full-screen user interface is written in BASIC so can be a bit sluggish, but the actual file copying is written in machine language and operates as fast as the disk drives will go.

Mighty Mon 128 version 4.00.10

Mighty Mon is a machine-language monitor program for the C-128. It is better than the one built into the ROM monitor and is what I used to write the ZED program. When loaded, it sits in the top 16.5K of RAM0.

Even Faster Swiftlink

By Craig Bruce. I have just made a trivial but important hardware hack to one of my (two) SwiftLink cartridges to see if I could make it go faster, and it does!

As anyone who has read the SwiftLink technical documentation knows, CMD chose to use a double-speed clock crystal in the swiftlink in order to allow it to work at speeds up to 38,400 bps, doubling the maximum baud setting for the 6551 chip of 19,200 bps (\$0f in the

control register). For the general purposes for which the swiftlink is intended, this was an excellent design decision.

However, the 6551 also has the ability to use 1/16x the external clock rate in order to generate "non-standard" baud rates (well, non-standard in 1987), for rates up to 125,000 bps. The speed of the double-speed clock crystal is 3.6864 MHz, so 16x slower than this is 230,400 bps. I tried this rate out and it didn't work at all.

I replaced this crystal with a 1.8432 MHz crystal, which is the standard frequency for serial-chip crystals. One 16th the rate of this crystal is 115,200 bps, which is both below the 125,000-bps limit of the 6551 and is a standard serial speed for newer, high-speed modems, such as my USRobotics 28.8 Sportster.

I tried it out and it works; I can communicate with my modem successfully at 115,200 bps using ACETerm on a 2-MHz C-128. Well, mostly. The problem with such a high baud rate is that 11,520 interrupts per second have to be handled by the processor, which means that each interrupt must be handled in 177 clock cycles (at 2 MHz). ACE can normally handle this (much to my surprise), but occasionally it cannot and so it gets trampled by interrupts and crashes. This apparently happens when it is about to assert hardware flow control. I should be able to tune the interrupt routines to always be able to handle this baud rate. This baud rate doesn't work at all with the processor at 1 MHz. ACETerm crashes immediately. It is likely that this baud rate will work perfectly with the upcoming Super-64 accelerators from CMD.

However, if you are interested in making this hack, there is a price to be paid: you gain the ability to work at 115,200 bps but you lose the ability to work at 38,400 bps. The second highest speed of the swiftlink becomes 19,200 bps with this hack. It may be possible to install a switch to select between the two crystals, if this doesn't cause too much capacitance/inductance/whatever. Also, any hack, of course, voids any warranty.

The reason that I wanted to make this hack is that with my 28,800-bps modem, the standard rate for transferring regular text is about twice this, or 57,600 bps. So, there are actual gains to be made here. I also like to tell my PC-using friends to "get a real computer."

Hacking VGA Into A Commodore

ELLIOTT <elliott@ubmail.ubalt.edu> wrote, at maybe less than my current 115,200 bps :-):

Uh, I think the point here is to upgrade to a VIC-III chip equivalent. I mean, let's keep compatibility with the current VIC-II chip, but only add more sprites, permit more color definition within a 8x8 pixel square, etc. I do not advocate introducing an entirely different standard such as porting a VGA equivalent to the C= platform.

That's an interesting idea, but it seems that there's only a handful of VIC-III chips in existence and no more to be made. So, imagine a card that permits 64 sprites onscreen at once, 16 colors within a 8x8 pixel square with bit-wide resolution (No two-bit wide resolution due to extra colors), and we've got a winner, grafix-wise, for this would still be able to run existing C-64 programs. Also, this would still be on a composite output, so no needed expense is warranted, for most of us already have TV hook-ups or composite monitors. Remember the unused shadow register addresses? Let's use them.

Craig Bruce: Sixteen colors in an 8x8 pixel doesn't cut it for me. If a new graphics card cannot display a full-color image, then it's of limited marginal utility. The new card should also give C-64 users a hardware 80-column text screen; does the VIC-III do this? To do this clearly would probably require at least an RGBI monitor, which is a new monitor anyway for a C-64 user. You also don't want to chew up all of the memory in the C-64 when in graphics mode. What are the general capabilities of the VIC-III?

Using a VGA card does necessitate a VGA monitor, but they are widely available at reasonable cost; used, too. Although, this may or may not be a camel's back problem (people may not buy it since they might rather invest the additional cost into an actual PC).

Elliot: But you may be right: The time, expense and a limited market would be a bar to development of a SuperVIC or a VIC-III equivalent. Just that we don't lose focus by mentioning that the c64 should be 'upgraded' to a VGA standard, where we just simply do not compete. Instead, let us 'upgrade' within the C-64 perspective, and we can still proudly call it a C-64! :)

Actual Internet taglines: I embrace poverty! To annoy me, send money. ○ Phone sex? Nah, Ma Bell is a little past Playmate age. ○ I am perfectly sane, and so am I. ○ A bird in the hand - often requires a washcloth! ○ Happiness - the result of being too busy to be miserable. ○ I always cry after sex -- I think it's all the mace. ○ Indigestion - a square meal not fitting in a round stomach. ○ Do you give a fig about Newton? ○ How to turn a fox into a pit bull -- marry her. ○ Sorry, I forgot all about the Amnesia Conference. ○ A belly button is for salt when you eat celery in bed.

GEOS Clipart!

LOADSTAR presents the biggest Geos collection of clip art and fonts ever offered at one time. All of the Geos art that's ever appeared on LOADSTAR, as well as some great files from Geos fanatic Dick Estel, are available on twenty 5.25 inch disks or eight 3.5 inch disks. Most of this has never been seen before! Use these graphics in your GeoPaint, GeoWrite and GeoPublish documents or convert to FGM with FGM utilities. Spiff up your GeoFAX documents with the appropriate graphic -- every time!

Prices are \$20 for any two 3.5 inch disks, or any five 5.25 inch disks. You can purchase the whole collection for \$75 for either version. Call LOADSTAR toll-free at 1-800-594-3370 or 1-318-221-8718 to order by credit card. Or send check or money order and specify (by LG number) which disks you want.

5.25-INCH DISKS

Disk 01 - RAILS: Railroad art from Europe and the USA #0012D5

Disk 02 - VEHICLES/TAROT: Artwork of old and new autos; excellent geoPaint drawings of the Tarot card set #0013D5

Disk 03 - CLIP ART: Includes converted MacPaint files that have never before been available in Commodore format #0014D5

Disk 04 - OTTOWA/PRIME CLIPS: Artwork of the main landmarks of Ottawa; plus high quality public domain clip art #0015D5

Disk 05 - FONTS: More than 30 fonts from past issues of LOADSTAR, plus articles (in geoWrite format) on creating fonts. Also two ready-made headers for use with your own documents, one a picture of a mail truck; the other reading FROM THE DESK OF #0016D5

Disk 06, Disk 07, and Disk 08 - geoPaint and Photo Album files with the great clip artwork featured on past LOADSTARS - Includes GeoCurmudgeon, Anamalia I and II, Australian Animals, Valentine art and many more #0017D5, #0018D5, #0019D5

Disk 09 - GOODYKOONTZ FILES - Jasper Goodykoontz, born in Indiana in 1855, produced Goodykoontz's Perpetual Calendar and General Reference Manual (A Book for the Millions). This disk includes scans from the book of a wide array of subjects -- Gestures and Attitudes, Poultry, Craniology, and more. #0020D5

Disk 10 - OLD WEST: Scanned Artwork from Dick Estel's FRD Software - mostly woodcut style art of the old west, gold rush days and pioneer scenes. #0021D5

Disk 11 - J. NEELY ART/ANIMALS: Artist Jennifer Neely works with a wide variety of subject matter and materials. This disk contains some of her favorites, scanned into geoPaint format. Side 2 is a collection of scanned artwork of animals from FRD Software #0022D5

Disk 12 - HOLIDAY: Scanned artwork for New Years, Valentine's, St. Patrick's Day, Halloween, Thanksgiving and Christmas #0023D5

Disk 13 - PEOPLE/FACES: Clip art collection with dozens of scenes of people and faces from FRD Software #0024D5

Disk 14 - FRD CLASSICS: Dick's choice of the best of the FRD collection #0025D5

Disk 15 - DINOS/CLASSICS: Dinosaurs and other prehistoric beasts, as well as more first choice artwork from FRD. #0026D5

Disk 16 - SPORTS/MISC: Dozens of sports-related clips #0027D5

Disk 17 - OFFICE AND SCHOOL: Clips to be used at work and around the house #0028D5

Disk 18 - MUSIC & MORE SCHOOL CLIPS #0029D5

Disk 19 - SEASONAL AND HOLIDAYS: A clip for any occasion #0030D5

Disk 20 - SEASONAL AND HOLIDAYS: A clip for any occasion #0031D5

3.5 INCH DISKS

The 3.5" disks are roughly equivalent to two and a half 5.25" disks.

Disk 1: Equivalent of Disks 1, 2, 4B #0009D3

Disk 2: Equivalent of Disks 3, 6, 7A #0010D3

Disk 3: Equivalent of Disks 5, 8, 7B #0011D3

Disk 4: Equivalent of Disks 9, 10, 11A #0012D3

Disk 5: Equivalent of Disks 12, 13, 11B #0013D3

Disk 6: Equivalent of Disks 14, 15 and some bonus files not on 5.25" disks #0014D3

Disk 7: Sports, Office and school, Music #015D3

Disk 8: Music, Holiday and Seasonal #016D3

For your convenience, GeoViewer is included on each volume for quick and easy viewing/printing outside of the GEOS environment. For optimum usefulness, GEOS 2.0 is suggested.

As I understand it, CMD is not in the business of fabricating new chips; they produce new cards and devices that use standard, mass-produced chips and mechanisms. □

64 Keyboard Extend

by JOE COMMODORE @ SLR on the CommNet. This weekend I did a little hardware project on the 'Realms. With a couple hours I extended the 64 keyboard out of the computer. Fortunately I had a keyboard unit with an IDC (Insulation Displacement Connector), which made the motherboard connection easy. I was able to pull off the 18 wires without damaging all but one pin (there was an extra one <whew!>) and put a Ribbon cable in its place. Then using a similar keyboard as a guide I was able to solder the other end of the cable into the keyboard Printed Circuit Board (and re-solder because I didn't notice I had one wire too many!).

So now the 64 sits on top of the desk, and the keyboard sits lower on the keyboard shelf. I can't seem to use the RESTORE key, but that is not a problem since I put a reset button on the 64. Also for this project I used 2 1/2' of ribbon cable but not thinking of the ferrite ring or the way the cable snakes I probably should have used at least 3' of cable.

Next up is an enclosure for the keyboard for a desired tilt as well as an ergonomic wrist rest, for that - styrofoam. □

C-64 CD Rumlblings

by SIR COMMODORE @ TOR. I seem to remember that of the three CDs with 64 software on them, all three have the files in emulator format (the files are 1541 disk images, with ".d64" extensions). My user group president is working on a CD where the files will be in the original format, and not as 1541 images. His plan is to produce the CD in a standard ISO format, readable by IBM and Mac platforms, in addition to 64s and 128s through a CMD HD. He's pretty much hired me to write the interface, with a SCSI CD-ROM drive and CMD HD as payment; he'll give me the drive right away, then when I'm finished, he'll reimburse me for my HD. I don't think I can go wrong. :)

My ambition is something like Big Blue Reader or Little Red Reader, where you can copy the software onto your HD, RAMLink or floppy drive. In addition, I'm planning some code where you can directly transfer a file from the CD to your 64 or 128's memory; this would work on just about every single-file program, and most programs that go through the standard KERNEL LOAD vector. □

Re: C64 CDROM

From: doug.cotton@the-spa.com (Doug Cotton)

In article <DKDCG7.HB2.0.-s@inmet.camb.inmet.com>, davidm@hous.inmet.com (David Martin) wrote:

I was told that I can purchase a CDROM of C64 programs, etc. from a person in Europe thru another in the US. The cost is

LOADSTAR

P.O. Box 30008, Shreveport, LA 71130-0008

Questions: 1-318-221-8718/Orders 1-800-594-3370

Mastercard/Visa/Amex/Discover Accepted

CHURCH BULLETIN BLUNDERS: A batch of "real" announcements from church bulletins: Don't let worry kill you -- let the church help. ○ Thursday night -- Potluck supper. Prayer and medication to follow. ○ Remember in prayer the many who are sick of our church and community. ○ For those of you who have children, and don't know it, we have a nursery downstairs. ○ The rosebud on the alter this morning is to announce the birth of John, the son of Rev. and Mrs. Smith.

approx. \$55.00 US. This CD is not available in stores nor is it available from a mailorder firm. I was wondering if anyone has purchased it and used it? How is it? Do you consider it a worthy purchase? I'm asking about this to help ease my mind before I commit any money towards it since prepayment is required. Is there a review from a reputable source? Magazine? If not? Why doesn't someone write one up? (I used to do that for several Amiga magazines several years ago!)

Doug: I know of three CD-ROM disks that contain C-64 programs, all of which are available via mail-order. Two of these are from 64'er Magazine in Germany, while the third is from Walnut Creek, a common CD archiving company in the US. These have not been written about in our publication mostly because they aren't C-64 products -- they're for PC and Amiga users who have C-64 emulators (the newest CD from 64'er may be more usable by 64 owners with specific equipment, but we haven't seen this yet to be sure).

There have been one or two other CDs mentioned in the past that were available only from individuals. I've seen the list of programs on one of

these, and basically it was all illegal (de-protected commercial games for the most part). Such a product deserves only the attention of the authorities charged with locating and prosecuting criminals, not the Commodore community.□

"The Internet For Commodore Users" by Gaelyne R. Moranec

The Internet is a big place and it's not always easy to find out all the ins and outs about taking advantage of its features when checking it out for the first time. There's a lot of Commodore specific information available on the Internet, but you have to know how to get to the information, and that can be a Catch-22.

How do I get on the Internet? What term programs can I use? What the heck is FTP? Can I browse the World Wide Web with my C64?

Gaelyne Moranec, the former editor of CEE-64 Alive!, has been writing about Commodore computers and modeming for three years with columns in Commodore World and BBS Magazine. After answering countless letters helping others learn the ropes of using the Internet, she's announced that she's working on a book for Commodore users who want to take advantage of the Internet. "The Internet For Commodore Users" has a tentative release date of March 31, 1996 and will be packaged with Nick Rossi's Novaterm 9.5 (shareware) term program. The first half of the book discusses Commodore software and hardware needed, setting up a term program, hooking a modem up to the computer, and finding an Internet provider. The second half of the book covers the basics of using the features of the Internet, such as Email, FTPing, browsing the World Wide Web, dealing with Unix commands and other subjects, all from the point of view of a diehard Commodore user. "The Internet For Commodore Users" is expected to cost \$24.95 US.□

Gaelyne R. Moranec: moranec@hal9000.apana.org.au WWW: http://www.msen.com/~brain/guest/Gaelyne_Moranec/QWKRR128: http://www.msen.com/~brain/guest/Gaelyne_Moranec/qwkrr/ Speaking for myself and not for any publications or other employers.

A Mobile C-64?

From: icebbs@ramlink.net (Iceman of the Inner Circle). In article <ezwriterDKAvLE.MrG@netcom.com>, ezwriter@netcom.com says...

Years ago saw an article in C64 mag about a cop that used his 64 in his squad car. Anyone try this in their car? I guess using a power inverter to run everything, they didn't say.

Iceman: I haven't heard about the police officer who used one in his squad car, but a friend of mine and I rewired his SX-64 to run off a car battery and he used it in his job as a salesman, so it can be done. It has been a long long time ago though and I have forgotten just how we did it. I do remember that we replaced several of the power supply components and actually hard wired it. You should be able to use one of the ready built converters like they use in RVs nowadays though.□

FD-2000 Special Pricing

From: Charlie Christianson, cmd.cac@the-spa.com: Due to outstanding response to our new low price (\$159) on the FD-2000 3.5" high density floppy drive, CMD has decided to extend the offer through the end of February '96. Contact CMD to order. □

A Real Hack Job From one Of Our Readers

by Daniel A. O'Brien. Is something wrong with the picture on the following page? A Commodore Keyboard with a T-cursor pad? Yes! Daniel A. O'Brien of the Argentine Republic packs a blade, and with that blade, he's done a nice job of remodeling his 128 keyboard. Here's his account:

I began with a 64 many years ago. After that, a 128. More recently I obtained a couple of spare ones for parts. I work currently in both 64 and 128 mode, and it bothers me much when I'm sometimes unable to use the numeric or upper cursor keys. RUN's patch that activated the extra 128 keys in the 64 mode was not a satisfactory remedy because it's incompatible with software that I use. Because of this I obtained an extra 128D keyboard and modified the printed board connections.

I connected all the keys of the numeric keypad in parallel with the

LOADSTAR T-Shirts Are Here!



Grab A LOADSTAR T-Shirt Today!

These limited edition Fruit Of The Loom T-shirts are 50% Cotton and 50% Polyester, available in Small Medium, Large, X-large and XX-Large. Each shirt is \$15.00 each with free shipping!

Send me: ☐ S shirts ☐ M shirts ☐ L shirts ☐ X shirts ☐ XX shirts

Total Enclosed:

☐ Check/money order made payable to "Loadstar" in US Funds
☐ MasterCard ☐ Visa ☐ American Express ☐ Discover
 Card # _____

Expiration Date _____ / _____ / _____

Authorized signature: _____

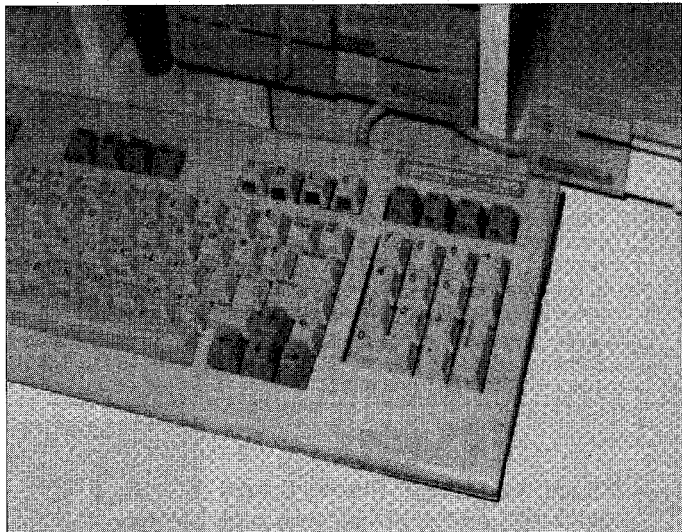
Mail or Fax to: **LOADSTAR**

P.O. Box 30008, Shreveport, LA 71130-0008

Questions: ○ 1-318-221-8718 ○ Fax 1-318-221-8870

Orders 1-800-594-3370

You may be a High Tech Redneck if: If you have old computers up on blocks in the front yard. ○ If your e-mail address ends in "over.yonder.com." ○ If you connect to the World Wide Web via a "Down Home Page." ○ If the bumper sticker on your truck says "My other computer is a laptop." ○ If your laptop has a sticker that says "Protected by Smith and Wesson." ○ If you wire your network with jumper cables. ○ If you've ever doubled the value of your truck by installing a cellular phone. ○ If your deer rifle has laser-guided bullets. (Apologies to Jeff Foxworthy) Terrell Smith. tsmith@ivcfncs.fullfeed.com



corresponding main keys so that from an electrical standpoint, pressing one key was the same as pressing the corresponding key. I also added the new cursor keys in the more modern inverted T layout. When in the 128 mode it allows me to normally use some programs that re-define cursor keys.□

Junk Email Revolt!

For :
SLIMY@JUNKMAILER.GO.AWAY!.TI.COM

In article <4bq0c\$ma1@rock101.genie.net>, loadstar@genie.com says:

LOADSTAR: Is it just me or does anyone else hate all the junk happy holidays mail? I don't mind mail from person to person, but I've gotten probably 30 messages from people I don't know, mass mailed to HUNDREDS of other people I don't know. This leads to Email with about five pages of just internet addresses for a two-line "Happy Holidays" message.

Slimy: I'm sick of junk mail period. I was getting several messages a week so I decided to do something about it, you can too. I haven't received one message for several weeks now. Read the sig and my address...

Due to the ever increasing tide of junk mail that now roams what was once great communication medium free of advertising, my

E-Mail address will no longer be disclosed. If you have something to say, do so publicly as a response to this UseNet message. You can thank the blood sucking leaches of various organizations who have ruined this once great frontier. I encourage you to do the same and put an end to this nonsense.

I haven't received one message for several weeks now. What I do is reply to it with a full quote, change the header so they will read it, and at the bottom tell them where they can stuff it. Then delete it.

If they have the gall to send it back to you, just send it on back to them. Eventually they won't want to play anymore and they will go away. □

Some Things That Bother Me

by Jeff Jones. The names that people call their keys is a personal matter, but the names that authors call Commodore keys is not private because misnomers and malapropisms abound in "official" Commodore text. The more this error is allowed to propagate, the more people will misinterpret properly written documentation.

Take the HOME key: Note that I didn't call it the CLR/HOME key as there is no such key. Plenty of people refer to CLR as SHIFT-CLR/HOME, which (I guess) is both redundant and in error. Un-shifted, it is HOME. Shifted, it is

CLR. The same for DELETE. I've heard this key referred to as everything from "instant delete" to insert/delete." Again shifted it is INSERT, un-shifted, it is DELETE.

RUN/STOP/RESTORE is properly named STOP/RESTORE or even STOP-RESTORE. The STOP key is un-shifted. RUN, originally designed to LOAD and run a tape program (now usually wedged to boot from disk), is shifted.

Referring to these special keys in both their identities is much like referring to F1 as F1/F2 or F8 as F7/F8. Which one do you really mean? If you mean for a person to push 1, you should say 1, and not 1/! as these are two different keys. Same rules for CLR, STOP and DEL.

To send your tax-deductable contribution to the Society for the Correct Nomination of Keys, please call 1-555-TIME-ON-MY-HANDS. A key name is a terrible thing to waste. □

A Note Of Interest

By Jeff Jones. You might notice that I appear *somewhere* in this newsletter. At least my right hand does. Can you find it? □



THE UNDERGROUND

The 8-bit Commodore Mini-Mag!

The Underground is a bi-monthly publication with articles featuring reviews, PD/Shareware, BASIC and machine language tutorials, Geos, telecommunications, international stuff, news and tips. The Underground is a publication created by people who refuse to let their 8-bit computers gather dust, and is priced low enough for even the most frugal users. Try a sample issue to see if the Underground is worth your while. You'll be glad you did.

Single Issue \$2.00
Can/Mex \$2.25 • International \$3.75
One Year (six issues) \$11.00
Can/Mex 12.50 • International \$21.50
All prices in US Funds

Send check or Money Order (US funds) to:
THE UNDERGROUND
4574 Via Santa Maria
Santa Maria, CA 93455
USA

You know you're a high tech redneck if: If your baseball cap reads "DEC" instead of "CAT." ○ If your computer is worth more than all your cars combined. ○ If your wife ever said either she or the computer had to go, and you still don't miss her. ○ If you've ever used a CD-ROM as a coaster to set your beer on. ○ If you ever refer to your computer as "Ole Bessy." ○ If your screen saver is a bitmap image of your favorite truck, tractor, or farm animal. ○ If you start all your e-mails with the words "Howdy y'all." (Apologies to Jeff Foxworthy) Terrell Smith. tsmith@ivcfnsc.fullfeed.com

CMD • HARDWARE • ORDERS: 1-800-638-3263 • SOFTWARE • CMD

HD Series SCSI Hard Disk Drives

HD-40, 42 MB (Limited Supply)	\$329.00
HD-85, 85 MB (Limited Supply)	\$359.00
HD-170, 170 MB (Special Edition)	\$399.00
HD-340, 340 MB (Special Edition)	\$449.00
HD-500, 500+ MB (Special Edition)	\$499.00
HD-1000, 1 GB (Special Edition)	\$779.00

FD Series 3.5" Floppy Disk Drives

FD-2000 (800K and 1.6 MB)	\$179.95
FD-4000 (800K, 1.6 MB and 3.2 MB)	\$249.95
FD Real-Time-Clock Option/Kit	\$20.00/\$29.00
Box of 10, High Density Disks (1.6MB)	\$14.95
Box of 10, Enhanced Density Disks (3.2 MB)	\$29.00

JiffyDOS

(Specify computer serial number and drive model)

JiffyDOS C64/SX-64 System	\$49.95
JiffyDOS C-128/128-D System	\$59.95
Additional Drive ROM's	\$24.95

Miscellaneous Hardware

80-column Monitors (Refurb)	CALL
Aprotek 3-Way User Port Expander	\$30.00
Aprotek User Port Extension Cable	\$19.00
C-64/64-C Computers (Refurb, w/JD)	\$89.00
C-64, C-64C Power Supply (Repairable)	\$39.00
C-128 Power Supply (Repairable)	\$49.00
Cannon BJ-200ax Bubble Jet Printer	\$289.00
Cannon BJC-4000 Color Bubble Jet Printer	CALL
Commodore 1541 Disk Drives (NEW, w/JD)	\$119.00
Commodore 1541 Disk Drives (Refurb, w/JD)	\$75.00
Commodore 1541-II Disk Drive (Refurb, w/JD)	\$109.00
Commodore 1802 40-column Monitor (Refurb)	\$139.00
CMD EX2+1 3-Port Cartridge Port Expander	\$34.95
CMD EX3 3-Port Cartridge Port Expander	\$29.95
CMD Gamepad/Joystick Controller	\$24.95
CMD GeoCable II Print Cable 6ft./15ft.	\$29.00/\$34.00
CMD SmartMouse (1351 Compatible Mouse)	\$49.95
CMD SmartTrack (1351 Compatible Trackball)	\$69.95
Monitor Cables	CALL
Mouse Pad	\$2.95
MW-350 Printer Interface (20K/8K Buffer)	\$49.00/\$60.00
Samsung SP-0912 9-pin Epson-comp. Printer	\$139.00
Samsung SP-2412 24-pin Epson-comp. Printer	\$179.00
Samsung SP-2417 24-pin Color Printer	\$249.00

Utilities

Big Blue Reader V4.10 (SOGWAP)	\$39.00
CMD Utilities	\$24.95
JiffyMON-64 (ML Monitor)	\$19.95
The Compression Kit '94 (Mad Man)	\$39.00

GEOS

Collette Utilities (Handy Geos Utilities)	\$19.95
Desk Pack Plus	\$29.00
Dweezils Greatest Hits (NewTools2, Stamp, Label128)	\$25.00
FDPACK Plus	\$20.00
gateWay 64 or 128 (Specify Version)	\$29.95
geoBASIC	\$20.00
geoCalc 64/128	\$40.00/\$45.00
geoChart	\$29.00
geoFAX	\$39.95
geoFile 64/128	\$40.00/\$45.00
geoMakeBoot (Makes Bootable copies)	\$12.95
geoProgrammer	\$45.00
geoPublish	\$40.00
GEOS 64 v2.0	\$44.00
GEOS 128 v2.0	\$49.00
geoSHELL V2.2 (CLI for GEOS)	\$24.95
International FONTPACK	\$25.00
Perfect Print LQ for GEOS (Laser-like output)	\$49.95
RUN GEOS Companion	\$20.00
RUN GEOS Power Pak I or II (Specify)	\$20.00

Books

Anatomy of the 1541	\$12.00
Basic Compiler Design for the C-64	\$12.00
C-64 Science & Engineering	\$12.00
C-64 Computer Aided Design	\$12.00
C128 BASIC Training Guide	\$12.00
Cassette Book for C-64 and Vic 20	\$12.00
Commodore 64 Tricks and Tips	\$12.00
GEOS Programmers Reference Guide	\$35.00
Graphics Book for the C-64	\$12.00
Hitchhikers Guide to GEOS	\$35.00
Ideas for Use on Your C-64	\$12.00
Printer Book for the C64	\$12.00
Mapping the C64	\$12.00
Simple Internet	\$16.95
Superbase - The Book	\$15.00

Scanning & Video

Handscanner	\$249.00
Pagefox	\$139.00

RAMLink Power-Backed RAM Disk

RAMLink Base Model (0MB, No RAMCard)	\$149.00
RAMLink w/1 MB RAMCard (Limited Time)	\$199.00
RAMLink w/4 MB RAMCard (Limited Time)	\$339.00
RAMCard RTC Option/Kit	\$10.00/\$19.00
RAMLink Battery Back-up (Optional)	\$24.95
Parallel Cable (RAMLink to HD)	\$14.95

MIDI & Sound

Digimaster	\$34.95
SID Symphony Stereo Cartridge	\$44.95
Sonus 64 Sequencer, MIDI Interface, Cables	\$99.00
Sonus 128 Sequencer, MIDI Interface, Cables	\$99.00

Languages & Compilers

BASIC 64 Compiler (Abacus)	\$17.00
BASIC 128 Compiler (Abacus)	\$25.00
Blitz! 64 Compiler (Skyles)	\$30.00
Blitz! 128 Compiler (Skyles)	\$30.00
Buddy 64/128 Assembler	\$39.00
Cobol 64 (Abacus)	\$17.00
Fortran 64 (Abacus)	\$17.00
Pascal 64 (Abacus)	\$17.00
Power C 64 (Spinaker)	\$14.00

Productivity

Cadpak 64 (Abacus)	\$22.00
Cadpak 128 (Abacus)	\$25.00
Chartpak 64 (Abacus)	\$17.00
Chartpak 128 (Abacus)	\$25.00
I Paint v1.5 (128, 80-col., 64K VDC) (Living Proof)	\$39.00
I Port v1.54 (128, 80-col., 64K VDC) (Living Proof)	\$29.00
Outrageous Pages (Batteries Included)	\$19.00
PaperClip 3 64/128 (Batteries Included)	\$35.00
Personal Portfolio Manager (Abacus)	\$16.00
Pocket Writer 2 (64) (Digital Sol.)	\$65.00
Pocket Writer 3 (64 or 128) (Digital Sol.)	\$70.00
Pocket Planner 2 or Pocket Filer 2 (Digital Sol.)	\$35.00
PowerPlan 64 (Abacus)	\$16.00
RUN Productivity Pak I, II, or III (Specify)	\$15.00
RUN Super Starter Pak 1541 or 1581	\$20.00
RUN Works	\$20.00
SEC Check Register 128	\$29.00
SuperScript 64 (Precision)	\$15.00
SuperScript 128 (Precision)	\$20.00
Suberbase 64 Version 3.01 (Precision)	\$35.00
Suberbase 128 Version 3.01 (Precision)	\$35.00
SwiftCalc 64 (Timeworks)	\$16.00
Tax Perfect 64 (Free '94 Upgrade)	\$69.00
Tax Perfect 128 (Free '94 Upgrade)	\$79.00
TWS 64 w/Speller (Busy Bee)	\$29.00
TWS 128 w/Speller (Busy Bee)	\$39.00
TWS Modules (HD/RL/Illustrator)	each \$5.00

Telecommunications

Aprotek MiniModem C-24 (C= ready, 2400 baud)	\$69.00
Aprotek MiniModem C (C= ready, 1200 baud)	\$50.00
Aprotek Modem adapter (C= to Ext. PC Modem)	\$20.00
BOCA 2400 Baud Modem	\$69.00
BOCA 2400 w/SwiftLink and Cable	\$99.00
BOCA 14.4K bps FaxModem	\$129.00
BOCA 14.4K w/SwiftLink & Cable	\$159.00
BOCA V.34 28.8K bps FaxModem	\$259.00
BOCA V.34 w/SwiftLink & Cable	\$289.00
Dialogue 128	\$29.00
SpeedTerm (Abacus)	\$25.00
SwiftLink RS-232 Cartridge (Up to 38.4K baud)	\$39.95
SwiftLink Modem Cable (DB9-DB25)	\$9.95

Games

Atomino	\$17.00
Ballistix	\$13.00
Blood Money	\$15.00
Chompi	\$10.00
Day in the Life of Prehistoric Man	\$19.00
Escape Route	\$19.00
Heavenbound	\$19.95
Island of the Dragon	\$19.00
Laser Squad	\$13.00
Lions of the Universe	\$19.95
Mainframe	\$13.00
Menace	\$15.00
Navy Seal	\$10.00
Rings of Medusa	\$16.00
RUN C128 Funpak	\$15.00
RUN C64 Gamepak	\$15.00
Skate or Die	\$13.00
The Amazing Spider-Man	\$15.00
The President is Missing!	\$10.00
The Three Stooges	\$10.00
Tie Break Tennis	\$16.00
Total Eclipse	\$10.00
Ultima V	\$17.00
Wings of Circe	\$19.00
Wizardry 5: Heart of the Maelstrom	\$24.00



JiffyDOS

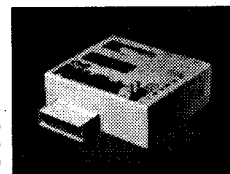
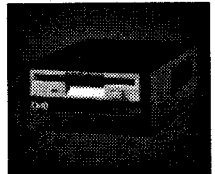
Increase Speed Up to 1500% while retaining 100% compatibility

- Speeds up Loading, Saving, Verifying, Formatting and Reading/ Writing of Program, Sequential, User and Relative files unlike cartridges which only speed up Loading and Saving of PRG files
- Built-in DOS Wedge plus 17 additional features including file copier, text dump, printer toggle, and redefinable function keys make using your computer easier and more convenient
- ROM upgrade installs easily into most computers and disk drives. Supports C-64, 64C, SX-64, C-128, 128-D, 1541, 1541C, 1541-II, 1571, 1581 and more.

FD Series

3.2 and 1.6 MB 3.5" Floppy Drives

The FD-2000 and FD-4000 disk drives utilize today's latest 3.5 inch disk drive technology. FD-2000's support 800K (1581 style) and 1.6 MB (High Density) formats, while the FD-4000 also offers support for the 3.2 MB (Enhanced Density) disk format. Fast and reliable, they support 1541, 1571 and 1581 style partitions, Native Mode partitioning and can actually read and write 1581 disks. FD's feature built-in JiffyDOS, SWAP button and optional Real Time Clock. High capacity, speed and compatibility make the FD right for every application, including GEOS.



RAMLink

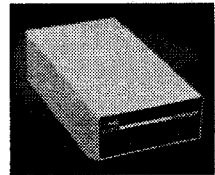
Power-Backed Expandable REU

The fastest possible form of storage, RAMLink provides instant access to files and retains data while your computer is turned off. Easy to use and expandable up to 16 MB, RAMLink utilizes the same powerful operating system found in CMD Hard Drives. Unlike Commodore REU's which are compatible with less than 1% of commercial software, RAMLink also supports more than 80% of the commercial titles. RAMLink also offers built-in JiffyDOS Kernel, SWAP feature, reset button, enable/disable switch, pass-thru port and RAM port for REU/GEORAM use. RAMLink offers maximum speed, expandability and compatibility with all types of software and hardware including GEOS.

HD Series

SCSI Hard Drive for the C-64/128

HD Series Hard Drives are available in capacities up to 1 GB, are fully partitionable, and can emulate 1541, 1571, & 1581 disks while Native partitions utilize MS-DOS-style subdirectories. HD's connect easily to the serial bus or parallel via RAMLink. Includes built-in JiffyDOS, SWAP feature and RTC. HD's offer superior compatibility with most commercial software including BBS, Productivity and GEOS. And with new pricing, HD Series drives offer the lowest cost per megabyte of any C64/128 storage device.



Shipping and Handling Charges

Use the chart below to match your order subtotal with your shipping zone and method.

Order Subtotal	Continental United States					
	UPS Ground	2nd Day	Next Day	AK HI, PR	Canada	Foreign
\$0.01 - \$19.99	\$3.00	\$8.00	\$17.00	\$12.00	\$5.00	\$15.00
\$20.00-\$29.99	\$5.00	\$9.00	\$18.00	\$14.00	\$7.00	\$20.00
\$30.00-\$59.99	\$6.00	\$10.00	\$20.00	\$15.00	\$9.00	\$25.00
\$60.00-\$149.99	\$8.00	\$12.00	\$23.00	\$19.00	\$12.00	\$35.00
\$150.00-\$299.99	\$10.00	\$14.00	\$27.00	\$21.00	\$20.00	\$50.00
\$300.00-\$799.99	\$15.00	\$20.00	\$34.00	\$27.00	\$25.00	\$55.00
\$800.00 +	\$20.00	\$25.00	\$40.00	\$32.00	\$35.00	\$60.00

UPS C.O.D. add \$5.00 (U.S. PR only)



Creative Micro Designs, Inc.

P.O. Box 646
East Longmeadow, MA 01028

Info: (413) 525-0023
Fax: (413) 525-0147

Payment and Delivery: CMD accepts MC, Visa, Money Orders, COD and Personal Checks. Personal Checks are held for up to 3 weeks. Most items are stock, contact CMD for current delivery schedules. Returns for merchandise credit only within 30 days with prior authorizations. All prices and specifications are subject to change without notice.